

Textile Lifting Slings and Lashing Equipment



Catalogue 13.3

Yale Industrial Products GmbH

At a glance



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Flat webbing slings and round slings

lale

- easy handling
- high flexibility and adaptability
- optimal grip



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Ratchet lashings

- light weight and handy
- high strength
- wear and abrasion resistant for extended use

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Accessories for flat webbing slings and round slings

- wear resistant
- cut resistant



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Special ratchet lashings for trucks, cars and

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Webbing Slings and Round Slings

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Accessories for ratchet lashings

- wear resistant
- cut resistant
- anti-slip



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Load binders

universal tool to restrain and secure loads and freight.



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Weld-on hooks

for use on trucks, excavators and low loader, crossheads and spreaders



Flat webbing slings and round slings

Yaletex flat webbing slings and round slings are made from high tensile polyester (PES) manufactured according to EN 1492 Part 1 and 2, offering the following advantages:

- low weight, thus easy handling
- protection against hand injuries
- protection against cargo surface damage
- highly flexible and adaptable to given shapes
- excellent adhesion when using PU sling coatings
- equal pressure distribution over tension and pressure sensitive loads
- UV-resistant, eliminating material ageing or embrittlement
- heat resistant up to +120° C
- moisture-resistant fabric, thus preventing frost damage (up to approx. -40° C)
- low-strain, wear-resistant, long-life material (100 % PES)

Yaletex flat webbing slings

as per EN 1492 Part 1

- duplex construction from PU-starched, thermally fixed web fabric
- colour coded as per current CEN standard
- with soft sewn eyes (Becket eyes)
- low elongation < 4%

Other capacities (up to 40 tonnes) and webbing slings made from polyamide (PA) and special lengths are available on request.

Yaletex round slings

as per EN 1492 Part 2

- double-fabric outer casing PU-finished, thermally fixed
- colour coded as per current CEN standard
- printed-on capacities
- woven-in capacity stripes

Rated capacities

| es | | | WLL in kg | with one webbing sling | | | WLL in kg with two webbing slings | | | slings |
|-----------|--------|------------------|----------------|------------------------|-------------------------------------|---------------|--|------------------------------|------------------------------|-----------------------------|
| | | straight lift | choke hitch | inc up to 7° | basket, lination angl 7°- 45° | eβ 45°-60° | stra inclinatio 7°- 45° | ight n angle β 45°-60° | cho inclinatio 7°- 45° | oke n angle β 45°-60° |
| | | Ĩ | S | Ü | B | 2 | B | Ń | B | 6 |
| Factor | | 1,0 | 0,8 | 2,0 | 1,4 | 1,0 | 1,4 | 1,0 | 1,12 | 0,8 |
| 1.000 kg | violet | 1.000 | 800 | 2.000 | 1.400 | 1.000 | 1.400 | 1.000 | 1.120 | 800 |
| 2.000 kg | green | 2.000 | 1.600 | 4.000 | 2.800 | 2.000 | 2.800 | 2.000 | 2.240 | 1.600 |
| 3.000 kg | yellow | 3.000 | 2.400 | 6.000 | 4.200 | 3.000 | 4.200 | 3.000 | 3.360 | 2.400 |
| 4.000 kg | grey | 4.000 | 3.200 | 8.000 | 5.600 | 4.000 | 5.600 | 4.000 | 4.480 | 3.200 |
| 5.000 kg | red | 5.000 | 4.000 | 10.000 | 7.000 | 5.000 | 7.000 | 5.000 | 5.600 | 4.000 |
| 6.000 kg | brown | 6.000 | 4.800 | 12.000 | 8.400 | 6.000 | 8.400 | 6.000 | 6.720 | 4.800 |
| 8.000 kg | blue | 8.000 | 6.400 | 16.000 | 11.200 | 8.000 | 11.200 | 8.000 | 8.960 | 6.400 |
| 10.000 kg | orange | 10.000 | 8.000 | 20.000 | 14.000 | 10.000 | 14.000 | 10.000 | 11.200 | 8.000 |

| | | WLL in kg with one round sling | | | | | WLL in kg with two round slings | | | lings | | |
|-----------|--------|---------------------------------------|----------------|----------|--|---------|--|----------------|--------|------------------|--------|---------|
| | | straight lift | choke hitch | | basket, inclination angle $\boldsymbol{\beta}$ | | | straight choke | | oke n angle ß | | |
| | | | | up to 7° | 7°-45° | 45°-60° | 7°-45° | 45°-60° | 7°-45° | 45°-60° | 7°-45° | 45°-60° |
| | | | 0 | U | Z | | B | \sum | | | đ | |
| Factor | | 1,0 | 0,8 | 2,0 | 1,4 | 1,0 | 0,7 | 0,5 | 1,4 | 1,0 | 1,12 | 0,8 |
| 1.000 kg | violet | 1.000 | 800 | 2.000 | 1.400 | 1.000 | 700 | 500 | 1.400 | 1.000 | 1.120 | 800 |
| 2.000 kg | green | 2.000 | 1.600 | 4.000 | 2.800 | 2.000 | 1.400 | 1.000 | 2.800 | 2.000 | 2.240 | 1.600 |
| 3.000 kg | yellow | 3.000 | 2.400 | 6.000 | 4.200 | 3.000 | 2.100 | 1.500 | 4.200 | 3.000 | 3.360 | 2.400 |
| 4.000 kg | grey | 4.000 | 3.200 | 8.000 | 5.600 | 4.000 | 2.800 | 2.000 | 5.600 | 4.000 | 4.480 | 3.200 |
| 5.000 kg | red | 5.000 | 4.000 | 10.000 | 7.000 | 5.000 | 3.500 | 2.500 | 7.000 | 5.000 | 5.600 | 4.000 |
| 6.000 kg | brown | 6.000 | 4.800 | 12.000 | 8.400 | 6.000 | 4.200 | 3.000 | 8.400 | 6.000 | 6.720 | 4.800 |
| 8.000 kg | blue | 8.000 | 6.400 | 16.000 | 11.200 | 8.000 | 5.600 | 4.000 | 11.200 | 8.000 | 8.960 | 6.400 |
| 10.000 kg | orange | 10.000 | 8.000 | 20.000 | 14.000 | 10.000 | 7.000 | 5.000 | 14.000 | 10.000 | 11.200 | 8.000 |

Information for use

Information for use as per EN 1492 Part 1 and 2

Information for use and maintenance for Yaletex flat webbing and round slings

Lifting correctly

Before a load is lifted the weight of the load must be determined by checking the delivery note, marking on the load or packing, weight tables (e.g. steel profiles) or by crane weigher. The load must not weigh more than the carrying capacity shown on the sling label for the given angle of inclination.

The larger the angle of inclination on multi-fall slings the greater is the tension force between the individual slings that has to be taken up in addition to the load. The reductions in carrying capacity for the inclinations 45° and from 45° to 60° are shown on the sling label. Inclination angles larger than 60° are not permissible.

To lift a load without twisting or turning adhere to following instructions: On single-fall slings and chains, round slings and endless flat slings the point of attachment should be over the load centre; double-fall slings should be attached both sides and above the load centre; 3 and 4-fall slings should be attached at one level around the load centre. Preferably they should be attached with equal spacing and above the load centre.

In multi-fall cases where the slings are attached at different angles of inclination the greatest strain is borne by the single sling with smallest inclination angle. In extreme cases a single vertical sling will bear the weight of the complete load. When multi-fall slings are attached asymmetrically only half of the carrying capacity shown on the sling label may be carried.

Instructions for use of

Yaletex flat webbing and round slings

- Before use, select the correct flat webbing or round sling with regard to its application, capacity and the surface conditions of the load (see designation on the labels).
- Examine the condition of the webbing sling or the round sling (improperly maintained or repaired slings, including unreadable labels, must be excluded from further use).
- The permissible capacity of the slings must not be exceeded. (WLL in accordance with the applied lifting method)
- Never shorten a sling by knotting.
- Flat webbing slings and round slings must not be placed around sharp edges or over rough surfaces. Use wear sleeves and edge protectors where necessary.
- Flat webbing slings should be applied in such a way, that they carry the load over the full sling width.
- Loads may only be placed on slings if damage is precluded. Do not drag slings from under loads - position the sling correctly to ensure easy removal after use.
- Position slings in such a way, that they hold the load securely. (displacement of the centre of gravity must be avoided)
- In "choker" lifts, only use flat webbing slings with reinforced eyes.
- Using flat webbing slings with Becket eyes, the eye opening angle should not exceed 20° at the connecting point.
- In cases where flat webbing slings or round slings are used in connection with chemicals or in extreme temperatures, contact the manufacturer for instructions.
- In "choker" or direct lifts the round sling should be positioned so that it can form its "natural" inclination angle of 60° and that heat due to friction is avoided.
- Avoid sharp jerks and jolts.
- Do not drag the load across the floor with the sling or drag the sling across rough surfaces.

Supervision of

Yaletex flat webbing slings and round slings

- Before use, flat webbing slings and round slings should be examined for obvious defects, and, in case of damage, be taken out of service.
- At least once annually inspections should be carried out by a competent person in accordance with the regulations specified below.

Maintenance and repair of

Yaletex flat webbing slings and round slings

- Slings must be stored cool and dry in a preferably ventilated area, and protected against adverse weather conditions and chemically active environments.
- Slings should not be dried near open fires or other hot places (over 120°C).
- Repairs may only be performed by the manufacturer.

Instructions for inspection of

Yaletex flat webbing slings and round slings

- flat webbing slings must be taken out of service when:
 yarn fractures or cuttings exceed 10 % of the sling cross-section
 damage occurs at the supporting seams
 - dafinage occurs at the supporting seams
 - deformation is caused by heat absorption (friction, radiation)
 - damage is caused by aggressive materials
 - chafing on the surface
 - yarn is threadbare or forms loops
- when fittings are deformed or damaged
- round slings should be taken out of service when:
 - damage is caused by aggressive material.
 - the outer casing or its sewing is damaged so that the core is visible.
 In these cases the sling must be taken out of service and inspected by a competent person. The sling may only be reused when it has been repaired and a competent person confirms that it is safe to use.
 - deformation is caused by heat absorption (friction, radiation)
 - when fittings are deformed or damaged
 - damage by heat and friction produce a glossy surface, in extreme cases the surface fibres can fuse together

Reference:

DIN EN 1492-1, Publication date:2000-10 Textile slings - Safety - Part 1: Flat woven webbing slings, made of man-made fibres, for general purpose use; German version EN 1492-1:2000

DIN EN 1492-2, Publication date:2000-10 Textile slings - Safety - Part 2: Roundslings, made of man-made fibres, for general purpose use; German version EN 1492-2:2000

Yaletex round sling RSD as per EN 1492-2

made from polyester, Duplex sleeve with woven-in capacity stripes

| | WILL 3000Kg | 5 | | |
|-------------|-------------|------------------------------|------------------------------------|--|
| Designation | Colour | WLL "straight lift" kg | Width approx., under load mm | Thickness approx., under load mm |
| RSD-01000 | violet | 1.000 | 52 | 5 |
| RSD-02000 | green | 2.000 | 57 | 6 |
| RSD-03000 | yellow | 3.000 | 71 | 8 |
| RSD-04000 | grey | 4.000 | 76 | 9 |
| RSD-05000 | red | 5.000 | 86 | 9 |
| RSD-06000 | brown | 6.000 | 96 | 11 |
| RSD-08000 | blue | 8.000 | 112 | 12 |
| RSD-10000 | orange | 10.000 | 112 | 15 |

Other capacities (up to 100 tonnes) and special lengths available upon request.

Yaletex webbing sling HBD as per EN 1492-1, Type B2

made from polyester, Duplex construction, with two reinforced eyes (width of eyes approx. 1/2 webbing width)

| | Yale | | | |
|-------------|--------|------------------------------|---------------------|------------------|
| Designation | Colour | WLL "straight lift" kg | Webbing width mm | Eye length mm |
| HBD-01000 | violet | 1.000 | 30/50 | 200 |
| HBD-02000 | green | 2.000 | 60 | 250 |
| HBD-03000 | yellow | 3.000 | 90 | 300 |
| HBD-04000 | grey | 4.000 | 120 | 375 |
| HBD-05000 | red | 5.000 | 150 | 450 |
| HBD-06000 | brown | 6.000 | 180 | 600 |
| HBD-08000 | blue | 8.000 | 240 | 625 |
| HBD-10000 | orange | 10.000 | 300 | 750 |

Other capacities (up to 20 tonnes) and special lengths available upon request.

Yaletex

Round slings Webbing slings

Yaletex webbing sling HBD-SN as per EN 1492-1, Type C2

made from polyester, Duplex construction, with two steel D links (non-reevable)

| | ware that the that was not | Yale | \square | → (≪ d) ★ (≪ d) ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ |
|--------------|----------------------------|------------------------------|---------------------|--|
| Designation | Colour | WLL "straight lift" kg | Webbing width mm | Link dimension b x d x t mm |
| HBD-SN-01000 | violet | 1.000 | 30/50 | 30 x 13 x 95 |
| HBD-SN-02000 | green | 2.000 | 60 | 60 x 16 x 90 |
| HBD-SN-03000 | yellow | 3.000 | 90 | 90 x 18 x 110 |
| HBD-SN-04000 | grey | 4.000 | 120 | 120 x 22 x 130 |
| HBD-SN-05000 | red | 5.000 | 150 | 150 x 26 x 170 |
| HBD-SN-06000 | brown | 6.000 | 180 | 180 x 30 x 200 |
| HBD-SN-08000 | blue | 8.000 | 240 | 240 x 32 x 230 |
| HBD-SN-10000 | orange | 10.000 | 300 | 300 x 40 x 290 |

Yaletex webbing sling HBD-SD as per EN 1492-1, Type Cr2

made from polyester, Duplex construction, with steel D and DP links (reevable)

| | 1 1 1 1 1 1 | Yale | \square | |
|--------------|-------------|------------------------------|---------------------|-----------------------------------|
| Designation | Colour | WLL "straight lift" kg | Webbing width mm | Link dimension b x d x t mm |
| HBD-SD-01000 | violet | 1.000 | 30/50 | 30 x 13 x 145 |
| HBD-SD-02000 | green | 2.000 | 60 | 60 x 16 x 165 |
| HBD-SD-03000 | yellow | 3.000 | 90 | 90 x 18 x 190 |
| HBD-SD-04000 | grey | 4.000 | 120 | 120 x 22 x 240 |
| HBD-SD-05000 | red | 5.000 | 150 | 150 x 26 x 300 |
| HBD-SD-06000 | brown | 6.000 | 180 | 180 x 30 x 320 |
| HBD-SD-08000 | blue | 8.000 | 240 | 240 x 32 x 360 |
| HBD-SD-10000 | orange | 10.000 | 300 | 300 x 40 x 435 |

Accessories

PU-Protection sleeve, single and double-sided

made of cut resistant polyurethane with inner fabric insert to ease sliding of the sleeve on the webbing.

Designation Webbing width Outside - Inside height of sleeve single-sided mm mm mm PU-SC-1-030 50 x 40 30 22 PU-SC-1-050 50 70 x 60 22 22 PU-SC-1-060 60 80 x 70 PU-SC-1-090 90 110 x 100 22 PU-SC-1-120 145 x 135 22 120 22 PU-SC-1-150 150 170 x 160 PU-SC-1-180 180 200 x 190 22 PU-SC-1-240 240 260 x 250 31 PU-SC-1-300 330 x 320 300 31

| Designation double-sided | Webbing width mm | Outside - Inside mm | height of sleeve mm |
|-----------------------------|---------------------|------------------------|------------------------|
| PU-SC-2-050 | 30 | 50 x 40 | 22 |
| PU-SC-2-060 | 50 | 70 x 60 | 22 |
| PU-SC-2-075 | 60 | 80 x 70 | 22 |
| PU-SC-2-090 | 90 | 110 x 100 | 22 |
| PU-SC-2-100 | 120 | 145 x 135 | 22 |
| PU-SC-2-120 | 150 | 170 x 160 | 22 |
| PU-SC-2-180 | 180 | 200 x 190 | 22 |
| PU-SC-2-240 | 240 | 260 x 250 | 31 |
| PU-SC-2-300 | 300 | 330 x 320 | 31 |

Double PU sleeves cannot be fitted subsequently on webbing slings with steel links. If required, state sleeve length when placing the webbing sling order. Standard length 4 m. Other length in full meters only.



PU-Edge protector

made of cut resistant polyurethane with slots to allow easy attachment and fixing on the round sling.

| Designation | Diameter mm | Length mm | suitable for round slings up to WLL |
|-------------|----------------|--------------|---|
| PU-KSW-30 | 30 | 80 | 3000 kg |
| PU-KSW-50 | 50 | 125 | 5000 kg |







Accessories

Round sleeve with fabric insert

Economical solution to protect webbing slings and round slings against wear caused by abrasion. Not suitable for protection against sharp edges!

| Designation | Diameter mm | suitable for webbing slings | suitable for round slings |
|-------------|----------------|--------------------------------|------------------------------|
| PU-SG-040 | 40 | up to 50 mm | up to WLL 2 t |
| PU-SG-063 | 63 | up to 75 mm | up to WLL 3 t |
| PU-SG-075 | 75 | up to 100 mm | up to WLL 6 t |
| PU-SG-090 | 90 | up to 125 mm | up to WLL 8 t |
| PU-SG-110 | 110 | up to 150 mm | up to WLL 10 t |
| PU-SG-150 | 150 | up to 180 mm | - |
| | | | |



PU-Coating, single and double-sided

for Yaletex webbing slings

made of polyurethane. Extremely wear and cut resistant. The coating is permanently fixed to the webbing and cannot be lost during usage.

| Designation single-sided | Webbing width mm | Width mm |
|-----------------------------|---------------------|-------------|
| PU-FB-1-050 | 50 | 60 |
| PU-FB-1-075 | 60 | 70 |
| PU-FB-1-100 | 90 | 100 |
| PU-FB-1-125 | 120 | 130 |
| PU-FB-1-150 | 150 | 160 |
| PU-FB-1-200 | 180 | 190 |
| PU-FB-1-250 | 240 | 250 |
| PU-FB-1-300 | 300 | 310 |

| Designation double-sided | Webbing width mm | Width mm |
|-----------------------------|---------------------|-------------|
| PU-FB-2-050 | 50 | 60 |
| PU-FB-2-075 | 60 | 70 |
| PU-FB-2-100 | 90 | 100 |
| PU-FB-2-125 | 120 | 130 |
| PU-FB-2-150 | 150 | 160 |
| PU-FB-2-200 | 180 | 190 |
| PU-FB-2-250 | 240 | 250 |
| PU-FB-2-300 | 300 | 310 |



Both types with integrated edge protection for the sensible webbing edges!





Ratchet lashings

Yaletex ratchet lashings are made from polyester according to EN 12195-2 and offer the following advantages:

- light weight and handy
- flexible
- high load-carrying capacities
- low-strain, wear-resistant, long-life strap material (100 % polyester)
- moisture-resistant fabric, thus eliminating frost damage, at the same time providing largely decay-resistant properties
- all Yale ratchet lashings are heat set, stretched, PU-impregnated and in conformity with EN 12195-2

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Ratchet lashings

Yaletex Cambuckle lashing ZGK-25-125 as per EN 12195-2

25 mm - Lashing capacity LC 125 daN

Standard tension force STF 30 daN at standard hand force SHF 50 daN Standard lengths 4 m and 6 m, further lengths upon request

Single part web lashing

TA

Yaletex Ratchet lashing ZGR-25-250 as per EN 12195-2

25 mm - Lashing capacity LC 250 daN

Standard tension force STF 50 daN at standard hand force SHF 50 daN Standard lengths 4 m and 6 m, further lengths upon request

Single part web lashing



Two-piece web lashing



Yaletex Ratchet lashing ZGR-25-500 as per EN 12195-2

25 mm - Lashing capacity LC 500 daN

Standard tension force STF 100 daN at standard hand force SHF 50 daN Standard lengths 4 m and 6 m, further lengths upon request

Single part web lashing



Two-piece web lashing



Information for use

Yaletex

Information for use as per EN 12195 Part 2 Annex B

Information for use and maintenance for Yaletex web lashings

B.1 In selecting and using Yaletex web lashings, consideration shall be given to the required lashing capacity, taking into account the mode of use and the nature of the load to be secured. The size, shape and weight of the load, together with the intended method of use, transport environment and the nature of the load will affect the correct selection. For stability reasons free-standing units of load have to be secured with a minimum of one pair of web lashings for frictional lashings and two pairs of web lashings for diagonal lashing.

B.2 The selected Yaletex web lashings shall both be strong enough and of the correct length for the mode of use. Always follow good lashing practice: plan the fitting and removal operations of lashing before starting a journey. Keep in mind that during longer journeys parts of the load may have to be unloaded. Calculate the number of web lashings according to EN 12195-1:2000. Only those web lashings designed for frictional lashing with STF on the label are to be used for frictional lashing.

B.3 Because of different behaviour and elongation under load conditions, different lashing equipment (e.g. lashing chain and web lashing) shall not be used to lash the same load. Consideration shall also be given ancillary fittings (components) and lashing devices in the load restraint assembly are compatible with the web lashing.

 ${\bf B.4}$ During the use flat hooks shall engage over the complete width of the bearing surface of the hook.

B.5 Release of the web lashing: Care should be taken to ensure that the stability of the load is independent of the lashing equipment and that the release of the web lashing shall not cause the load to fall off the vehicle and this endangering the personnel. If necessary attach lifting equipment for further transport to the load before releasing the tensioning device in order to prevent accidential falling and/or tilting of the load. This applies as well when using tensioning devices which allow controlled removal.

B.6 Before attempting to unload a unit of load its web lashings shall be released so that it can be lifted free from the load platform.

B.7 During loading and unloading attention has to be paid to proximity of any low overhead power lines.

B.8 The materials from which web lashings are manufactured have a selective resistance to chemical attacks. Seek the advice of the manufacturer or supplier if exposure to chemicals is anticipated. It should be noted that the effects of chemicals may increase with rising temperature. Yaletex web lashings are made from high tensile, PU-finished and thermally fixed polyester webbings. Polyester is resistant to mineral acids but is attacked by alkalis. Solutions of acids or alkalies which are harmless may become sufficiently concentrated by evaporation and may cause damage. Take contaminated webbings out of service at once, thoroughly soak them in cold water and dry naturally.

B.9 Yaletex web lashings complying with this part of EN 12195 are suitable for use in a temperature range of -40° C up to $+120^{\circ}$ C. These ranges may vary in a chemical environment. In that case the advice of the manufacturer or supplier shall be sought.

Changing the environmental temperature during transport may affect the forces in the web lashing. Check the tension force after entering warm areas.

B.10 Yaletex web lashings shall be rejected or returned to the manufacturer for repair if they show any signs of damage. The following criteria are considered to be sign of damage:

- for web lashings (to be rejected): tears, cuts, nicks and breaks in load bearing fibres and retaining stitches; deformations resulting from exposure to heat.
- for end fittings and tensioning devices: deformations, splits, pronounced signs of wear, signs of corrosion.

Repairs shall only be made under the responsibility of the manufacturer. Only web lashings bearing identification labels shall be repaired. Following repair, the manufacturer shall guarantee that the original performance of the device is maintained. If there is any accidential contact with chemical products, a web lashing shall be removed from service and the manufacturer or supplier shall be consulted.

B.11 Care should be taken that the web lashing is not damaged by sharp edges of the load on which it is used. A visual inspection before and after each use is recommended.

B.12 Only legible marked and labelled web lashings shall be used.

B.13 Web lashings shall not be overloaded: Only the maximum hand force of 500 N (50 daN on the label; 1 daN \approx 1 kg) shall be applied. Mechanical aids such as levers, bars etc. as extensions are not to be used unless they are specially designed to be used with the device.

B.14 Web lashings shall never be used when knotted.

B.15 Damage to labels shall be prevented by keeping them away from sharp edges of the load and, if possible, from the load.

B.16 The webbing shall be protected against friction, abraison and damage from loads with sharp edges by using protective sleeves and/or corner protectors.

PLEASE NOTE:

- The number of web lashings has to calculated according to EN 12195-1:2000.
- Only those web lashings designed for frictional lashing with STF on the label are to be used for frictional lashing.
- If possible, always use friction mats with a certified friction coefficient of μ = 0.6.
- Always use the greatest possible angle of inclination i.e. web lashing shall be used as inclined as possible.
- The mentioned friction coefficients are valid for clean and dry surfaces under a cover, free of ice and snow. In combination with humidity (rain) the direct lashing method has to be used or the number of web lashings has to be doubled.

Reference:

DIN EN 12195-2, Publication date:2001-02 Load restraint assemblies on road vehicles - Safety - Part 2: Web lashing made from man-made fibres; German version EN 12195-2:2000

For questions and further advice please contact the manufacturer or supplier of the web lashing.

Ratchet lashings

Yaletex Ratchet lashing ZGR-35-1000 as per EN 12195-2

35 mm - Lashing capacity LC 1000 daN

Standard tension force STF 150 daN at standard hand force SHF 50 daN Standard lengths 6 m and 8 m, further lengths upon request

Single part web lashing



Yaletex Ratchet lashing ZGR-50-2000 as per EN 12195-2

50 mm - Lashing capacity LC 2000 daN

Standard tension force STF 300 daN at standard hand force SHF 50 daN Standard lengths 8 m and 10 m, further lengths upon request

Single part web lashing



Standard end fittings

for Yaletex ratchet lashings with webbing width 35 mm (1 $^{1}\!/_{2}$ ") and 50 mm (2")



GKH SPH with twisted with do snap hook J hook



Further end fittings (hooks) and individual prints on webbing are available upon request.



Yaletex Ratchet lashing ZGR-50-2500

as per EN 12195-2

50 mm - Lashing capacity LC 2500 daN

Standard tension force STF 300 daN at standard hand force SHF 50 daN Standard lengths 8 m and 10 m, further lengths upon request

Single part web lashing



Yaletex Ratchet lashing ZGR-75-5000

as per EN 12195-2

75 mm - Lashing capacity LC 5000 daN

Standard tension force STF 500 daN at standard hand force SHF 50 daN Standard lengths 2 m and 4 m, further lengths upon request

Single part web lashing



Two-piece web lashing



Standard end fittings

for Yaletex ratchet lashings with webbing width 75 mm (3")



Further end fittings (hooks) and individual prints on webbing are available upon request.

Ratchet lashings

Special ratchet lashings



Truck lashing with ratchet buckle and fitting

Technical information

| Lashing capacity (LC) | daN | 1.000 |
|-----------------------|-----|-------|
| Webbing width | mm | 50 |
| Fixed end (LGF) | m | 1 |
| Adjustable end (LGL) | m | 3 |



Container lashing

consisting of ratchet lashing, round sling with reinforced eye (Becket eye) and wear protector

| Technical | information |
|-----------|-------------|
| recimicai | mormation |

| Lashing capacity (LC) | daN | 2.500 |
|----------------------------------|-----|-------|
| Webbing width | mm | 50 |
| Round sling 3 t, straight length | mm | 1.250 |
| Fixed end (LGF) | m | 0,5 |
| Adjustable end (LGL) | m | 0,5 |
| | | |



Wheel lashing

with D-ring and with ratchet double j hook

| Technical information | | |
|--|-----------|-------------|
| Lashing capacity (LC) Webbing width | daN mm | 1.000 35 |
| Length | m | 2,2 |

Ratchet base

for ratchet lashings

manufactured from cut resistant polyurethane. Can also be used as edge protector.

| Designation | for webbing width | | |
|---------------|-------------------|--|--|
| ZGZB-RU-PU-50 | 35-50 | | |
| ZGZB-RU-PU-75 | 75 | | |



Accessories



Edge protector

for ratchet lashings

manufactured from cut resistant polypropylene with integrated slots.

| Designation | for webbing width |
|---------------|-------------------|
| ZGZB-KS-PP-25 | 25 |
| ZGZB-KS-PP-35 | 35 |
| ZGZB-KS-PP-50 | 50 |



Edge protector profile

manufactured from polypropylene or recycledcardboard, to protect edges of loads.

| Designation | Dimensions | |
|-------------|----------------|--|
| ZGZB-KSP-PP | 190 x 190 x 20 | |
| ZGZB-KSP-RK | 60 x 60 x 5 | |



Friction mats

manufactured from highly pressed rubber granule, thickness 8 mm for a certified friction coefficient (anti-skid-factor) μ = 0,6

| Designation | Dimensions | | |
|----------------|----------------|--|--|
| ZGZB-ARM-250-8 | 1000 x 250 x 8 | | |



Yale[®] Accessories



Load binders

The Yale load binder is an universal tool to restrain and secure loads and freight. Manual operation of the binder lever extends or retracts the threaded spindles. Tension is upheld by the self-locking trapezoid threads.

The load binder is fitted with parallel hooks for direct attachment to chains or with clevis ends for use with existing fastening devices.





Ratcheting Cargo Bar

Ratcheting cargo bars are used to secure loads between bulkheads or between floor and roof.

- Flexible, anti-slip rubber boot ends
- Clamping force is by spring pressure ensuring no damage to contact surfaces
- Patented quality design made from rectangular steel tubing and aluminium profile

Yale[®]

Weld-on hooks ASH

Weld-on hooks

Capacities 1.000 - 8.000 kg

Yale weld-on hooks model ASH are universal attachments for use on trucks, excavators, low loaders and spreader beams, etc.

The forged safety latch has high lateral stability and an ergonomic shape.

Every weld-on hook has an identification number so that its history can be traced back through forging to the origin of the material. The hook can be welded without any special preparation, e.g. prewarming. The hook and safety latch are epoxy resin coated for added corrosion protection, the return spring is made from stainless steel.



| Capacity kg | Weld size a | L ₁ x B ₁ mm | B ₂ mm | C mm | H ₁ mm | H ₂ mm | L ₂ mm | Weight kg |
|----------------|----------------|---------------------------------------|----------------------|---------|----------------------|----------------------|----------------------|--------------|
| 1000 | 4 | 90 x 25 | 17 | 24 | 6 | 76 | 22 | 0,4 |
| 3000 | 5 | 130 x 35 | 24 | 29 | 8 | 105 | 28 | 1,25 |
| 5000 | 5 | 160 x 45 | 30 | 37 | 10 | 132 | 47 | 2,35 |
| 8000 | 7 | 170 x 50 | 40 | 47 | 10 | 138 | 50 | 3,6 |



Yale[®] Training



We offer many different training seminars in our new training centre in Velbert. The centre offers not only product training but also seminars that provide the trainee with up-to-date insider information and a consolidated knowledge in the usage of rope, lifting and lashing practices.

Modern communication technologies, hands-on experience and well designed training documentation guarantee a quick and lasting training success. As required all training seminars can also be held at other locations.

Seminars on special themes on request.

Training to become a competent person for the inspection of Yale hoisting equipment according to UVV BGV D8

According to German laws and standards all hoisting equipment must be subjected to a mandatory inspection at least once a year.

The inspection must be performed by a competent person.

In this seminar the participants are trained according to the safety regulations and by hands-on repair

to be qualified to perform the safety inspections.

Target group

Members from all industrial areas who are entrusted with the inspection, service and repair of hoisting equipment.



Basic slinging practices

The German safety pamphlet (Sicherheitslehrbrief für Anschläger), issued by the employer's liability insurance association (Berufsgenossenschaft), provides useful information for attaching loads in day to day operations. To protect oneself and others from the dangers of attached loads the rules contained in this pamphlet must be complied with at all times. The rules and their application are described in great detail.

Target group

Members from all industrial areas who are entrusted with attaching loads.



Issued by: Arbeitsgemeinschaft der Metall-Berufsgenossenschaften

Hütten- und Walzwerks-Berufsgenossenschaft, Düsseldorf Maschinenbau- und Metall-Berufsgenossenschaft, Düsseldorf Norddeutsche Metall-Berufsgenossenschaft, Hannover Süddeutsche Metall-Berufsgenossenschaft, Mainz Edel- und Unedelmetall-Berufsgenossenschaft, Stuttgart Can be obtained from: Carl Heymans Verlag KG Luxemburger Straße 449, 50939 Köln



Securing loads on trucks

Serious accidents are often caused because the people responsible for tying/lashing down loads are not properly trained to recognise all implications of this process.

In this seminar the participants are trained to use lashing equipment correctly.



Target group

Members from all industrial areas who are entrusted with lashing loads.

Introducing Yale . . .

The trademark Yale dates back to Linus Yale jnr. who invented and developed the revolutionary pin-tumbler cylinder lock, world renowned as the Yale lock.

- 1868 Together with his partner Henry R. Towne Linus Yale jnr. establishes the first Yale lock factory in Stamford, Connecticut named The Yale and Towne Manufacturing Company.
- 1875 Acquisition of the patents right to the Weston differential pulley block and the start of Yale hoist production.
- 1877 Yale designs the first spur geared hand chain hoist with incorporated Weston screw-and-disc type load brake.
- 1904 Yale sets up first sales operations in Germany, England and France.
- 1927 Concentration of production and distribution in Velbert. Acquisition of the lock manufacturing company Boge & Kasten, Solingen and access to the marketing rights under the trademark BKS.

- 1936 Start of hoist manufacture in Velbert with production of the world renowned Yale Pul-Lift® ratchet lever hoist. This robust and reliable tool was (and still is) the key product establishing Yale's reputation in hoisting technology in Europe and abroad. Until now more than one million Yale Pul-Lift® units have been built at the Velbert plant alone.
- 1963 Merger between Eaton Corporation and Yale & Towne Manufacturing.
- 1983 In USA Eaton Corporation sells the Yale hoist product line to Yale Industrial Products, Inc.
- 1985 Production and distribution of Yale hoisting equipment in Europe is taken over by Yale Industrial Products GmbH in Velbert, Germany with representations in various countries and subsidiaries in the U.K, France and Austria. During the following years the product offering of Yale Industrial Products GmbH was enlarged by
- 1988 Hydraulic Jacks and Tools
- 1994 Flat Webbing & Round Slings, Ratchet Lashings
- 1999 Tigrip[®] Lifting Clamps and Weighing Systems



Yale Industrial Products GmbH

Today Yale Industrial Products GmbH of Velbert is a member of a worldwide operating enterprise in the field of materials handling equipment. The company manufactures and distributes a comprehensive range of hoists and lifting clamps, textile slings and ratchet lashings, dynamometer systems and crane weighers as well as a wide range of hydraulic jacks and tools. Qualified personnel at the Yale locations in Germany, the U.K., Spain, France, Austria, Hungary, the Netherlands and South Africa as well as representations in Europe, America and Asia provide competent know-how and service. Yale logistics with worldwide distribution allows short lead times and international availability. Yale Industrial Products GmbH is known for a market and product orientated policy, a number of strong product names and a leading European market position in the field of standard manual hoisting equipment.



DIN EN ISO 9001

Yale Industrial Products GmbH manufactures world wide according to uniform, controlled standards of DIN EN ISO 9001. All Yale locations are certified. This is a guarantee for our business partners that given standards in design and development, manufacturing, assembly and service are complied with.





Product Documentation

Every unit is delivered with operating instruction, CE declaration of conformity resp. manufacture and a works test certificate, which confirms the perfect

tested status of the product. Additional documentation, e.g. spare parts manuals or maintenance and repair instructions are available on request.

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Special Documentation

Additional inspections with test report 2.2 resp. inspection certificate 3.1.B according to DIN EN 10204 or specific pre-shipment inspections e.g. by DNV or GL can be carried out at cost on request.





Glossary

Adjustable end

The adjustable end of a web lashing consists of the webbing with an attached end fitting (hook).

Cambuckle

Tensioning device. The tension force is applied by pulling the webbing. The cambuckle fixes the webbing in the tensioned position.

Coating

Sealing of webbing surface to improve resistance against wear and/or sharp edges, mainly made from \rightarrow Polyurethane.

Core

Load-bearing element of a round sling. It consists of up to four individual twisted yarn strings that were laid continuously over two points (=flat length) and fixed together.

Discard criteria

Criteria which describe the circumstances when lifting or lashing equipment shall be rejected and taken out of use.

Eye slings

Flat webbing slings with reinforced eyes at their ends.

Fixed end

The fixed end of a web lashing consists of the webbing, a tensioning device and an end fitting (Ratchet and hook).

Flat webbing sling

Lifting device as per EN 1492-1 made of polyester or other synthetic fibres. They can be designed as single-layer, double-layer or fourfold-layer \rightarrow eye slings or slings with steel links.

Frictional lashing

Lashing by increasing the friction between load and truck only. Due to the various parameters (\rightarrow Tension force \rightarrow friction coefficient \rightarrow Lashing Angle) it is the most difficult method of safe lashing. Unfortunately it is the most common method of lashing for road transport.

Friction coefficient

It describes the friction between the load and the platform of the truck. The higher the friction coefficient the lower is the additional force to fix the load on the platform.

Hand force

The standard hand force (SHF) is 50 daN and equals the force that is created by a load of 50 kg. The standard hand force is a reference value for the maximum load applied to the handle of a ratchet in order to determine the \rightarrow tension force.

Lashing capacity (LC)

Maximum force for use in straight pull that a web lashing is designed to sustain in use.

LC → Lashing capacity

Lifting methods

Different methods for the usage of webbing slings or round slings to lift loads.

Links

D or DP links are made of steel grade 80. DP links are reevable in combination with D links.

Polyamide (PA)

Synthetic fibre. Polypamide has a significantly higher elongation than → Polyester. Polyamide is not commonly used for lifting or lashing applications.

Polyester (PES)

Synthetic fibre. Due to its favorable physical and chemical characteristics it is the prefered material for the production of textile lifting and lashing equipment.

Polypropylene (PP)

Synthetic fibre. Polypropylene has a significantly higher elongation than \rightarrow Polyester. Polypropylene is not commonly used for lifting or lashing applications.

Polyurethane (PU)

consisting of synthetic polymeres with high values of resistance against wear and cuts. It is used to manufacture \rightarrow Protection sleeves and \rightarrow Coatings.

Protection sleeve

Sleeves made of \rightarrow Polyurethane, which are used as protection against sharp edges. They can be used with flat webbing slings and round slings.

Ratchet

A \rightarrow tensioning device which is used to engage the tension force in web lashings. The hand operating force will be applied with a handle.

Round sling

An endless laid lifting device as per EN 1492-2. The load-bearing \rightarrow core is covered with a woven sleeve that protects the yarn of the core.

Tensioning device

Mechanical device inducing and maintaining a tensile force in a load restraint assembly \rightarrow Ratchet \rightarrow Cambuckle.

Tension force

The standard tension force (STF) is the force that can be applied into a web lashing with a tensioning device. It is the measured residual force after release of the handle of the ratchet.

WLL

Working Load Limit . The maximum load for a lifting device when used in straight lift.

Web lashing

Load restraint assembly consisting of a tensioning device (Ratchet, Cambuckle), end fittings (hooks) and flat woven textile webbing.

Yale Industrial Products GmbH









Yale[®] Hoisting Equipment

- Ratchet lever hoists
- Hand chain hoists
- Electric and pneumatic chain hoists
- Travel trolleys and beam clamps
- Cable pullers and accessories
- Electric and pneumatic winches

TIGRIP[®] Load Hoisting Tackle and Crane Weighers

- Clamps
- Grabs
- Spreader beams
- Crane forks
- Crane weighers

Yale Hydraulic Jacks and Tools

- Hydraulic cylinders 5-1.100 tonnes
- Hand and motor pumps up to 700 bar
- Universal and machine jacks
- Hydraulic puller sets
- Workshop presses up to 200 tonnes
- Accessories and complete hydraulic systems

Yale*systems*

- Wall-mounted jib cranes
- Base-mounted jib cranes
- Gantry cranes
- Crane systems



Your local distributor: